



Docket No.: CIT/K-108

PATENT

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Re Application of

Jin Soo LEE and Hyeon Jun KIM

Application No.: 09/495,250

: Group Art Unit: 2172

Confirm. No.: 4616

: Examiner: Isaac M. Woo

Filed: January 31, 2000

For: METHOD OF SEARCHING MULTIMEDIA DATA

TRANSMITTAL OF APPEAL BRIEF

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Sir:

Submitted herewith in triplicate is Appellant(s) Appeal Brief in support of the Notice of Appeal filed March 5, 2003. Enclosed is Check No. 9390 for the Appeal Brief fee of \$320.00.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

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STATUS OF THE CLAIMS

This is an appeal from the Final Office Action dated November 5, 2002 of claims 1-2, 4-11, 13-14, and 21-26. Claims 3, 12, and 15-20 were cancelled by way of the Amendment filed on August 19, 2002.

STATUS OF AMENDMENTS

All Amendments filed in this application have been entered. A correct copy of appealed claims 1-2, 4-11, 13-14, and 21-26, including all entered amendments thereto, appears in the attached Appendix.

SUMMARY OF THE INVENTION

Embodiments of the present invention relate to a method comprising determining a weight of a feature and determining a weight of a feature element of the feature (e.g. claim 1-2 and 4-11). Other embodiments of the present invention relate to a method comprising and incorporating weight information of features and weight information of feature elements (e.g. claims 13-14). Digital images (e.g. such as images produced by a digital camera) are increasingly popular. One advantage of digital images is that they can be stored electronically in a memory device and viewed on a monitor without the necessity of a user paying for photographic developing costs. Accordingly, users may tend to take more digital pictures than photographic film pictures. Often, these digital pictures are saved in large quantities on computers. There is

often a necessity or desire for a user to search for a digital picture on a computer, which can be accomplished manually. Alternatively, digital image signal processing may be utilized to automatically search for a digital picture based on search criteria. Determining the search criteria may be an important factor in the accuracy and speed of searching for digital images through digital image signal processing (specification, page 1, lines 9-20). Accordingly, rapid and effective image searching may be performed by adjusting weights of both features and feature elements to reflect a user preferences. Feature elements may be subcategories of features and may be used to acquire a refined search of images (specification, page 28, lines 5-11).

Other embodiments of the present invention recite either a method or apparatus comprising: Inputting a first image that is similar to a target image. Inputting a second image that is dissimilar to the target image. Correlating the first image and second image to construct a search criteria (claims 21-26). In embodiments, by correlating a similar image to a target image and a dissimilar image to a target image to construct a search criteria, rapid and effective image searching can be accomplished (specification, page 28, lines 5-11).

### ISSUES

1. Whether the Examiner erred in the rejection of claims 1, 2, 4, and 7 under 35 U.S.C. § 103(a) because Jain et al. does not teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature.

2. Whether the Examiner erred in the rejection of claims 13 and 14 under 35 U.S.C. § 103(a) because Jain et al. does not teach or suggest incorporating weight information of features and weight information of feature elements.
3. Whether the Examiner erred in the rejection of claims 5, 6, and 8-10 under 35 U.S.C. § 103(a) because neither Jain et al. nor Ishimaru teach or suggest determining a weight of a feature and the determining a weight of a feature element of the feature.
4. Whether the Examiner erred in the rejection of claims 21-26 under 35 U.S.C. § 103(a) because neither Jain et al. nor Ishimaru teach or suggest correlating a first image that is similar to a target image and a second image that is dissimilar to the target image to construct a search criteria.
5. Whether the Examiner erred in the rejection of claim 11 under 35 U.S.C. § 103(a) because neither Jain et al. nor Taniguchi et al. teach determining a weight of a feature and determining a weight of a feature element of the feature.

### GROUPING OF THE CLAIMS

Appealed claims 1, 2, 4, and 7 form a single group and stand or fall together. Appealed claims 5, 6, 8, 9, and 10 form a single group and stand or fall together. Appealed claim 11 forms a single group and stands or falls independently. Appealed claims 13-14 form a single group and stand or fall together. Appealed claims 21-26 form a single group and stand or fall together.

### THE ARGUMENT

#### Issue 1:

A *prima facie* case of obviousness has not been established in the rejection of claims 1, 2, 4, and 7 under 35 U.S.C. § 103(a) because Jain et al. does not teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the references or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references. The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be

particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee* 277 F.3d 1338, 61U.S.P.Q.2d 1430 (Fed. Cir. 2002).

Claims 1, 2, 4, and 7 recite a method. The method comprises determining a weight of a feature and determining a weight of a feature element of the feature.

Jain et al. relates to a similarity engine for content-based retrieval of images. In column 12, lines 7-22, it is disclosed that default primitives are Local Color (250), Global Color (252), Structure (254), and Texture (256). It is disclosed in column 12, line 8 that primitives and their weights are identified. However, there is no disclosure in Jain et al. of a feature element of the disclosed primitives that are also weighted. In column 12, lines 34-36, a feature vector is disclosed. However, there is no disclosure that the feature vector is weighted. Accordingly, unlike the recitations of claims 1, 2, 4, and 7, Jain et al. does not disclose determining a weight of a feature and determining a weight of a feature element.

A *prima facie* case of obviousness under 35 U.S.C. § 103(a) has not been established, at least because the applied prior art reference of Jain et al. does not teach or suggest determining a weight a feature and determining a weight of a feature element of the feature, as recited in claims 1, 2, 4, and 7. Additionally, a *prima facie* case of obviousness has not been established,

because there is no suggestion or motivation within Jain et al. to modify Jain et al. to teach determining a weight of a feature and determining a weight of a feature element.

**Issue 2:**

**A *prima facie* case of obviousness has not been established in the rejection of claims 13 and 14 under 35 U.S.C. § 103(a) because Jain et al. does not teach or suggest incorporating weight information of features and weight information of feature elements.**

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the references or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references. The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000).



Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee* 277 F.3d 1338, 61U.S.P.Q.2d 1430 (Fed. Cir. 2002).

Claims 13 and 14 recite a method comprising incorporating weight information of features and weight information of feature elements.

Jain et al. relates to a similarity engine for content-based retrieval of images. In column 12, lines 7-22, it is disclosed that default primitives are Local Color (250), Global Color (252), Structure (254), and Texture (256). It is disclosed in column 12, line 8 that primitives and their weights are identified. However, there is no disclosure in Jain et al. of a feature element of the disclosed primitives that are also weighted. In column 12, lines 34-36, a feature vector is disclosed. However, there is no disclosure that the feature vector is weighted. Accordingly, unlike the recitations of claim 13 and 14, Jain et al. does not disclose incorporating weight information of features and incorporating weight information of feature elements.

A *prima facie* case of obviousness has not been established in the rejection of claims 13 and 14 under 35 U.S.C. § 103(a) at least because the applied prior art reference of Jain et al. does not teach the claimed recitation of incorporating weight information of features and weight information of feature elements. Additionally, a *prima facie* case of obviousness has not been established because Jain et al. does not disclose either a suggestion or motivation to modify Jain et al. to teach or suggest incorporating weight information of features and incorporating weight information of feature elements, as recited in claims 13 and 14.

**Issue 3:**

**A *prima facie* case of obviousness has not been established in the rejection of claims 5, 6, and 8-10 under 35 U.S.C. § 103(a) because neither Jain et al. nor Ishimaru teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature.**

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the references or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references. The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee* 277 F.3d 1338, 61U.S.P.Q.2d 1430 (Fed. Cir. 2002).

Claims 5, 6, and 8-10 recite a method. The method comprises determining a weight of a feature and determining a weight of a feature element of the feature.

Jain et al. relates to a similarity engine for content-based retrieval of images. In column 12, lines 7-22, it is disclosed that default primitives are Local Color (250), Global Color (252), Structure (254), and Texture (256). It is disclosed in column 12, line 8 that primitives and their weights are identified. However, there is no disclosure in Jain et al. of a feature element of the disclosed primitives that are also weighted. In column 12, lines 34-36, a feature vector is disclosed. However, there is no disclosure that the feature vector is weighted. Accordingly, unlike the recitations of claim 5, 6, and 8-10, Jain et al. does not disclose determining a weight of a feature and determining a weight of a feature element.

Ishimaru relates to an apparatus and method for the manipulation of image containing documents. There is no disclosure in Ishimaru relating to determining a weight of a feature and determining a weight of a feature element of the feature. Accordingly, Ishimaru does not alleviate the deficiencies of Jain et al.

A *prima facie* case of obviousness has not been established in the rejection of claims 5, 6, and 8-10 at least because neither Jain et al. nor Ishimaru teach determining a weight of a feature and determining a weight of a feature element of the feature. Additionally, a *prima facie* case of obviousness has not been established, because neither Jain et al. nor Ishimaru disclose the requisite suggestion or motivation to modify or combine Jain et al. and/or Ishimaru to teach determining a weight of a feature and determining a weight of a feature element of the feature.

**Issue 4:**

A *prima facie* case of obviousness has not been established in the rejection of claims 21-26 under 35 U.S.C. § 103(a) because neither Jain et al. nor Ishimaru disclose correlating a first image that is similar to a target image and a second image which is dissimilar to the target image to construct a search criteria.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the references or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references. The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee* 277 F.3d 1338, 61U.S.P.Q.2d 1430 (Fed. Cir. 2002).

Claims 21-26 recite a method comprising: Inputting a first image that is similar to a target image. Inputting a second image that is dissimilar to a target image. Correlating the first image and the second image to construct a search criteria.

Jain et al. relates to a similarity engine for content-based retrieval of images. It is stated on page 9, lines 12-13 of the November 5, 2002 Office Action that “Jain does not...disclose the inputting [of] a second image that is dissimilar to the target image.” Accordingly, Jain et al. does not disclose correlating a first image that is similar to a target image and the second image that is dissimilar to the target image to construct a search criteria.

Ishimaru relates to an apparatus and method for the manipulation of image containing documents. It is stated in the November 5, 2002 Office Action on page 9, lines 13-15 that “...Ishimaru discloses that dissimilar image is identified, and inputted for searching...” In Figure 2 and the accompanying disclosure in columns 3-5 of Ishimaru, documents from referenced document input 42 and search document input 50 are compared in comparison mechanism 48 and analysis mechanism 58. As disclosed in column 5, lines 6-14, an output of analysis mechanism 58 for dissimilar images is inputted to identifying mechanism 64. It is further disclosed in column 5, lines 35-39 that identifying mechanism 64 is connected to search document database 52 to indicate when a comparison has been completed and the program is ready for the next searched document. Accordingly, this disclosure is unlike the recitations of claims 21-23 of inputting a second image that is dissimilar to a target image. Further, unlike the recitations of claims 21-26, there is no disclosure of correlating a first image that is similar to a

target image and a second image that is dissimilar to the target image to construct a search criteria.

A *prima facie* case of obviousness has not been established in the rejection of claims 21-26 under 35 U.S.C. § 103(a) at least because neither of applied prior art references of Jain et al. nor Ishimaru teach or suggest correlating a first image that is similar to a target image and a second image that is dissimilar to the target image to construct a search criteria. Additionally, a *prima facie* case has not been established, because neither Jain et al. nor Ishimaru disclose the requisite suggestion or motivation to either modify or combine Jain et al. and/or Ishimaru to teach or suggest correlating a first image that is similar to a target image and a second image that is dissimilar to the target image to construct a search criteria, as recited in claims 21-26.

#### **Issue 5:**

A *prima facie* case of obviousness has not been established in the rejection of claim 11 under 35 U.S.C. § 103(a) because neither Jain et al. nor Taniguchi et al. teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the references themselves to modify the references or to combine reference teachings. Third, there must be a reasonable expectation of success for the modification or combination of references. The

teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There must be particular findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). Conclusory statements cannot be relied up for particular combinations of prior art and specific claims. *In re Lee* 277 F.3d 1338, 61U.S.P.Q.2d 1430 (Fed. Cir. 2002).

Claims 11 recites a method. The method comprises determining a weight of a feature and determining a weight of a feature element of the feature.

Jain et al. relates to a similarity engine for content-based retrieval of images. In column 12, lines 7-22, it is disclosed that default primitives are Local Color (250), Global Color (252), Structure (254), and Texture (256). It is disclosed in column 12, line 8 that primitives and their weights are identified. However, there is no disclosure in Jain et al. of a feature element of the disclosed primitives that are also weighted. In column 12, lines 34-36, a feature vector is disclosed. However, there is no disclosure that the feature vector is weighted. Accordingly, unlike the recitations of claim 11, Jain et al. does not disclose determining a weight of a feature and determining a weight of a feature element.

Taniguchi et al. relates to an apparatus for calculating a degree of white balance adjustment for a picture. There is no disclosure in Taniguchi et al. of determining a weight of

a feature and determining a weight of a feature element of the feature, as recited in claim 11. Accordingly, Taniguchi et al. does not alleviate the deficiencies of Jain et al.

A *prima facie* case of obviousness has not been established, at least because neither of the applied prior art references of Jain et al. nor Ishimaru teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature, as recited in claim 11. Additionally, a *prima facie* case of obviousness has not been established because neither Jain et al. nor Taniguchi et al. disclose the requisite suggestion or motivation to modify or combine Jain et al. and/or Taniguchi et al. to teach or suggest determining a weight of a feature and determining a weight of a feature element of the feature.

#### CONCLUSION

The Appellants respectfully request the Honorable Board of Appeals and Interferences of the U.S. Patent and Trademark Office to withdraw the rejections of claims 1-2, 4-11, 13, 14, and 21-26 because *prima facie* cases of obviousness have not been established under 35 U.S.C. § 103(a).

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APPENDIX

1. A method of searching multimedia data comprising:  
  
receiving at least one reference multimedia data selected by a user, wherein the reference multimedia data represents a specified multimedia data to be searched;  
  
measuring the similarities of features included in the plurality of reference multimedia data;  
  
determining and updating weights of each feature according to the measured similarities of the features;  
  
measuring the similarities of the feature elements in each feature included in the plurality of reference multimedia data;  
  
determining weights of each feature elements in respective features according to the measured similarities of the feature elements; and  
  
searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data, in consideration of the updated weights of features and feature elements.
2. A method of claim 1, wherein in searching for the specified multimedia data utilizing a combination of features and feature elements of the respective features included in said at least one reference multimedia data, wherein each feature has a feature weight and each feature element has a feature element weight.

4. A method of claim 1, further comprising terminating the search if the user is satisfied with the result of the search, otherwise the method comprising:

receiving at least one other reference multimedia data selected from among the resultant images of the search, wherein said at least one other reference multimedia data is determined to be similar to the specified multimedia data;

measuring the similarities of features included in the plurality of reference multimedia data and said at least one other reference multimedia data;

determining and updating weights of each feature according to the measured similarities of the features;

measuring the similarities of the feature elements in each feature included in the plurality of reference multimedia data and said at least one other reference multimedia data;

determining and updating weights of each feature elements in respective features according to the measured similarities of the feature elements; and

re-searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data and in said at least one other reference multimedia data, in consideration of the updated features weights and feature elements weights.

5. A method of claim 4, further comprising:

receiving at least one dissimilar multimedia data selected from among the resultant images of the search, wherein said at least one dissimilar multimedia data is determined to be

dissimilar to the specified multimedia data;

measuring the dissimilarities of features included in the plurality of reference multimedia data and said at least one dissimilar multimedia data;

measuring the dissimilarities of the feature elements in each feature included in the plurality of reference multimedia data and said at least one dissimilar multimedia data ; and

wherein in determining and updating weights of each feature elements in respective features according to the measured dissimilarities of the features according to the measured dissimilarities of the feature elements;

wherein in determining and updating weights of each feature elements in respective features according to the measured dissimilarities of the feature elements; and

wherein in re-searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data, in said at least one other reference multimedia data and in said at least one dissimilar data, in consideration of the updated features weights and feature elements weights.

6. A method of claim 1, further comprising terminating the search if the user is satisfied with the result of the search, otherwise the method comprising:

receiving at least one dissimilar data multimedia data selected from among the resultant images of the search, wherein said at least one dissimilar data multimedia data is determined to be dissimilar to the specified multimedia data;

measuring the dissimilarities of features included in the plurality of reference

multimedia data and said at least one dissimilar data multimedia data;

determining and updating weights of each feature according to the measured dissimilarities of the features;

measuring the dissimilarities of the feature elements in each feature included in the plurality of reference multimedia data and said at least one dissimilar data multimedia data;

determining and updating weights of each feature elements in respective features according to the measured dissimilarities of the feature elements; and

re-searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data and in said at least one dissimilar data multimedia data, in consideration of the updated features weights and feature element weights.

7. A method of claim 2, wherein one reference multimedia data is selected by the user, and comprising searching for the specified multimedia data utilizing features and feature elements of the respective features included in said reference multimedia data, wherein each features has a feature weight and each feature element has a feature element weight.

8. A method of claim 7, further comprising terminating the search if the user is satisfied with the result of the search, otherwise the method comprising:

receiving at least one other reference multimedia data selected from among the resultant images of the search, wherein said at least one other reference multimedia data is

determined to be similar to the specified multimedia data;

measuring the similarities of features included in said reference multimedia data and said at least one other reference multimedia data;

determining and updating weights of each feature according to the measured similarities of the features;

measuring the dissimilarities of the feature elements in each feature included in said reference multimedia data and said at least one other reference multimedia data;

determining and updating weights of each feature elements in respective features according to the measured similarities of the feature elements; and

re-searching for the specified multimedia data utilizing features and feature elements included in said reference multimedia data and in said at least one other reference multimedia data, in consideration of the updated features weights and feature element weights.

9. A method of claim 8, further comprising:

receiving at least one dissimilar multimedia data selected from among the resultant images of the search, wherein said at least one dissimilar multimedia data is determined to be dissimilar to the specified multimedia data;

measuring the dissimilarities of features included in said reference multimedia data and said at least one dissimilar multimedia data;

measuring the dissimilarities of the feature elements in each feature included in said reference multimedia data and said at least one dissimilar multimedia data; and

wherein determining and updating weights of each feature elements in respective features according to the measured dissimilarities of the feature elements;

wherein determining and updating weights of each feature elements in respective features according to the measured dissimilarities of the feature elements; and

wherein re-searching for the specified multimedia data utilizing features and feature elements included in said reference multimedia data, in said at least one other reference multimedia data and in said at least one dissimilar data, in consideration of the updated features weights and feature element weights.

10. A method of claim 7, further comprising terminating the search if the user is satisfied with the result of the search, otherwise the method comprising:

receiving at least one dissimilar data multimedia data selected from among the resultant images of the search, wherein said at least one dissimilar data multimedia data is determined to be dissimilar to the specified multimedia data;

measuring the dissimilarities of features included in said reference multimedia data and said at least one dissimilar data multimedia data;

determining and updating weights of each feature according to the measured dissimilarities of the features;

measuring the dissimilarities of the feature elements in each feature included in said reference multimedia data and said at least one dissimilar data multimedia data;

determining and updating weights of each feature elements in respective features

according to the measured dissimilarities of the feature elements; and

re-searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data and in said at least one dissimilar data multimedia, in consideration of the updated features weights and feature element weights.

11. A method of claim 2, wherein the feature is a color and the feature element weights are determined either by a color histogram with  $n$  color elements as the feature elements, or by dividing a multimedia data into  $n*m$  grid regions and utilizing a regional color histogram or a color representing a grid region as the feature elements.

13. A method of constructing a multimedia data comprising:  
incorporating a feature information including feature and feature elements of an image; and  
incorporating a weight information including weight information of said features and weight information of said feature elements.

14. A method of claim 13, wherein the feature and the feature elements are represented by an image characteristic structure comprising:  
a global information which represents a feature of a whole image; and  
a spatial information which represents a feature of an image region, wherein the

image characteristic structure further comprises a weight information which represents the importance of the global information and the spatial information.

21. A method comprising:  
searching for a target image based on search criteria, wherein searching for the target image comprises:  
inputting a first image that is similar to the target image;  
inputting a second image that is dissimilar to the target image; and  
correlating the first image and the second image to construct the search criteria.
22. The method of claim 21, wherein the correlating comprises:  
identifying a feature that is common between the first image and the second image; and  
decreasing the weight of the identified feature in the search criteria.
23. The method of claim 21, wherein the correlating comprises:  
identifying a feature that is not common between the first image and the second image; and  
increasing the weight of the identified feature in the search criteria.



24. An apparatus configured to:
- search for a target image based on search criteria, wherein searching for the target image comprises:
- inputting a first image that is similar to the target image;
  - inputting a second image that is dissimilar to the target image; and
  - correlating the first image and the second image to construct the search criteria.
25. The apparatus of claim 24, wherein the correlating comprises:
- identifying a feature that is common between the first image and the second image; and
  - decreasing the weight of the identified feature in the search criteria.
26. The apparatus of claim 24, wherein the correlating comprises:
- identifying a feature that is not common between the first image and the second image; and
  - increasing the weight of the identified feature in the search criteria.